



**DEVELOPING A POINT-OF-SALE (POS) SYSTEM FOR RETAIL
STORE OPTIMIZATION**

UNDERGRADUATE THESIS

**Submitted as one of the requirements to obtain
Sarjana Komputer (S.Kom)**

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FACULTY OF COMPUTER SCIENCE

INFORMATION SYSTEM STUDY PROGRAM

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ABSTRACT

The objective of this research is to develop a POS system that can improve retail store operations, increase sales, and enhance customer experience. The system will be designed to be user-friendly, efficient, and secure, and will be tested in a real-world environment. The research will involve a literature review, system analysis, design, development, testing, and deployment. The expected outcome is a functional POS system that can be used by retail stores to optimize their operations and increase their sales.

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ABSTRACT

The objective on development of a Point-of-Sale (POS) system aimed at optimizing retail store operations. In the modern retail environment, businesses require integrated and efficient systems to manage sales transactions, inventory tracking, and data reporting in real time. Traditional manual methods often lead to inefficiencies, errors, and poor decision-making due to lack of accurate and timely data. This study proposes a customized POS system designed to meet the specific needs of small to medium-sized retail businesses. The system includes core features such as real-time transaction processing, product and stock management, sales reporting, and user access control. By using modern web-based technologies, the POS system allows for easy accessibility, scalability, and integration with existing business processes. The methodology used in this research follows the Waterfall model, which includes sequential phases: requirement analysis, system design, implementation, testing, and maintenance. Usability and functionality are evaluated through testing in a simulated retail environment. The expected result of this project is a functional POS system that enhances operational efficiency, reduces human errors, and provides business owners with insights through data analytics. This research also highlights how digital tools can empower retail businesses to improve customer service, streamline their operations, and stay competitive in the digital era.

Keywords: Point-of-Sale System, Retail Optimization, Transaction Efficiency, Inventory Management, POS Technology

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